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CAPITAL COSTS IN THE UNITED STATES AND JAPAN

Summary

What American and Japanese firms have to pay for their money is cited as a striking difference between the two economies by many analysts, who then conclude that the apparent Japanese advantage on this score has been a key determinant of the success of Japanese firms in international competition. Careful studies of the cost of capital reveal, however, that the differences are far smaller than superficial analysis would suggest, although most experts believe that the discrepancy in Japanese firms' favor does not disappear entirely. What would appear to be different management philosophies in Japanese firms may be a result of the remaining capital cost disparities.

As Japan's capital markets and businesses become more international in their operations, a number of factors suggest that the country's capital cost advantages are likely to diminish. Some analysts even have ventured that the dramatic decline in the Tokyo stock market during the first three months of 1990 eventually may be viewed as a historic juncture in this process.

Savings, Investment and the Cost of Capital

Japan's postwar expansion is notable in many ways, not the least of which is the country's extraordinarily high rates of savings and investment. The high savings rate of Japanese consumers compared to that of their counterparts in other industrial countries has created a pool of surplus funds that industry can tap to finance high levels of plant and equipment spending. In the absence of trade or budget deficits and surpluses -- which during most of the

postwar period have been minimal relative to gross national product -- high rates of savings and high levels of investment were two ways of saying the same thing; one would not have been possible without the other. (For details of Japan's savings, see JEI Report No. 17A, May 1, 1987; for investment, see JEI Report No. 15A, April 14, 1989.)

The healthy volume of investment in Japan without doubt is a major contributing factor to the country's strong postwar growth rate, a virtually unbroken pattern of relative success that continues to this day. Various studies of Japan's high productivity growth rate, which has permitted ever larger national output, all point to capital formation as the overwhelmingly important factor. (For a discussion of productivity growth determinants in postwar Japan, see JEI Report No. 36A, September 22, 1989.)

Such analysis pinpointing the critical role of capital spending leads, in turn, to another question: what causes the high level of investment? Many analysts have said that Japanese firms spend large amounts on plant and equipment as well as on research and development in part because the cost of capital -- the pretax return expected on such projects -- has been low. As evidence they cite the low interest charges on borrowed funds and the low yield on corporate securities. This argument suggests that investors evaluate the rate of return on various possible instruments, such as bonds, stocks and bank savings deposits. The corporation has to appear likely -- or to promise, in the case of bonds and similar instruments -- to make enough on the proposed project and other projects to satisfy investors. Otherwise, investors will employ their money elsewhere. In other words, the cost of capital bears a close relationship to the interest rate. Other factors equal, the higher the interest rate, the higher the cost of capital.

Measuring the Cost of Capital

Given this argument, why doesn't a simple comparison of interest rates in Japan with those in the United States and other countries settle the cost of capital question? Unfortunately, meaningful figures are not readily available. Of course, compilations of interest rate numbers abound in the United States and Japan. Without adjustment, however, these figures carry little meaning.

Based on these unadjusted numbers, American businesses sometimes argue they cannot compete with firms from Japan because of low Japanese interest rates. They are correct about the low rates but may well be wrong about the implications. Very rarely during the postwar period have nominal Japanese interest rates been higher than those in the United States; often they have been much lower. For example, in late March 1990 long-term corporate bonds yielded 9.43 percent in the United States but only 7.44 percent in Japan. This gap actually was much narrower than at other times in the recent past when it had exceeded 4 percentage points. Similarly, short-term interest rates in Japan were lower in late March, when comparable three-month bills yielded 8.3 percent in the United States but only 6.4 percent in Japan. This occurred despite repeated efforts by the Bank of Japan in late 1989 and early 1990 to rein in the decline of the yen against the dollar in international currency markets by driving up the cost of borrowing in Japan.

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These figures obviously mean that a Japanese firm pays less in interest charges on a given dollar (or yen) of borrowed funds than an American company if each borrows in its domestic market. However, economists agree that such a statement by itself proves virtually nothing.

The effects of inflation pose one obstacle to judging interest rate differentials. If price increases are less in Japan than in the United States, as they generally have been in the 1980s, then the interest rate comparison is less in Japan's favor than it would appear. Adjustments for inflation would reduce the real cost of funds in the United States compared to Japan.

To see this point, consider the following example. Suppose that when a company seeks to obtain a loan it has a choice of servicing its borrowing with its output or with dollars. A steel company could repay its loan with steel, for example. (This example is not rare. Deals with centrally planned economies, such as China, sometimes involve servicing a loan with the production of the plant constructed with the loan.) If the price of steel goes up, the company's repayment in steel remains at the same number of tons. Alternatively, if the repayment is fixed in dollars, rising steel prices do not increase its dollar expenditures. A steel repayment scheme would be a fixed obligation in terms of the percentage of the company's output, but a dollar-based plan would necessitate selling fewer tons of steel to meet the contracted dollar repayment if prices should rise. In conclusion, dollar-denominated repayment schemes become less burdensome in the presence of inflation. Therefore, the typical loan where repayment is fixed in money -- rather than output -- becomes cheaper when the rate of inflation is higher, other factors equal.

With greater inflation in the United States than in Japan, American firms have experienced a considerably larger offset to their interest payments than have Japanese companies. Table 1 shows a very rough comparison of interest rates in the United States and Japan in recent years after making a crude adjustment for price increases in both countries. The gap between interest rates narrows as a result of adjusting for inflation, but it does not disappear completely. Note that in the early 1980s this measure actually showed real interest rates higher in Japan.

Return now to the present. During the 12 months through the end of February U.S. consumer prices rose 5.3 percent and Japanese consumer prices 3.6 percent. These figures would suggest that inflation-adjusted long-term rates based on the difference between long-term corporate bond yields and year-to-year consumer price changes are about 4.1 percent in the United States and 3.8 percent in Japan, while short-term rates are even closer. Such estimates obviously are very rough. For example, using past rates of inflation as an indication of future rates is always, at best, an approximation. Japan's annualized inflation rate over the recent December-February period was lower than the rate covering the past 12 months. If more current inflation rates are used, Japan's real interest rates would lie above those of the United States as of late March and early April.

Completing the Picture: Other Dimensions of the Cost of Capital

Most writers who concern themselves about the cost of capital stop here. As shown in Table 1, adjustments for inflation fail to completely remove the lower price of funds in Japan, with the 1980-81 period and early 1990 possible exceptions. More careful researchers add a number of other factors to reach a more sophisticated judgment.

Table 1: Yields on Government Bonds in Japan and the United States, 1980-89

	United States		Japan		Percentage Point Difference	
	Nominal	Real	Nominal	Real	Nominal	Real
1980	11.5%	-2.0%	9.2%	1.5%	2.2	-3.6
1981	13.9	3.6	8.7	3.8	5.2	-0.2
1982	13.0	6.8	8.1	5.4	4.9	1.4
1983	11.1	7.9	7.4	5.5	3.7	2.4
1984	12.5	8.2	6.8	4.5	5.7	3.7
1985	10.6	7.0	6.3	4.3	4.3	2.7
1986	7.7	5.8	4.9	4.3	2.7	1.4
1987	8.4	4.7	4.2	4.2	4.2	0.5
1988	8.9	4.9	4.3	3.6	4.6	1.3
1989	8.6	3.7	5.1	2.8	3.5	0.9
1989 - I	9.2	4.4	4.6	3.5	4.7	1.0
II	8.8	3.6	5.0	2.3	3.8	1.3
III	8.1	3.4	5.0	2.3	3.1	1.1
IV	8.0	3.3	5.7	3.0	2.2	0.3

Source: International Monetary Fund

Type of Financing - Not all forms of funding are created equal. Firms in both the United States and Japan usually finance their activities with some combination of debt, whether borrowed or raised on capital markets, funds raised by selling stock (new equity) or another form of equity, reinvested earnings. Differences between the United States and Japan in the cost of each of these sources of funds, as well as the various mixes of financing, contribute to distinctions in the overall cost of capital.

How to measure the cost of debt and equity is the first problem. For example, in the absence of inflation and other factors to be considered below, the cost of debt corresponds to the interest rate. However, what is the cost of newly raised equity or reinvested profits? Most often researchers apply a figure that the stock market has assigned -- the net income of a firm as a percentage of the market value of the firm's equity. (This figure is equal to the reciprocal of the price/earnings ratio familiar to stock analysts.) This suggests that if a company's stock is selling at $40 per share and the company is earning $8 per share, the cost of equity capital is 20 percent; the firm has to earn 20 percent on any planned investment financed with equity to meet the expectations of the stock market. Some researchers question, however, whether firms treat all forms of equity finance equally. For example, some U.S. companies have been accused of squandering retained profits on projects that yield far less than market rates of return for stockholders. This raises questions of whether their shareholders are indifferent to the return on reinvested income.

A second problem is the mix between equity and debt. Business page headlines in American newspapers routinely report soaring debt levels for U.S. corporations; Japanese firms, much less involved in leveraged buyouts, would appear to have much lower debt levels. If anything, the reverse is true, especially historically. In 1977 the book value of Japanese debt was almost four times that of equity valued at market prices; at the same time U.S. values were

virtually one-to-one. In recent years the ratios almost have converged, mainly because Japanese firms are less leveraged than before -- in other words, relying less on borrowed money and bonds than on equity. By 1988 the U.S. ratio had risen to slightly more than one-to-one, while Japanese corporate debt had dropped to just over one-and-a-half times equity. Most experts believe, for reasons explained below, that debt has a lower net cost than equity in both the United States and Japan. To the extent that this is true, Japan's capital cost advantage, if any, probably is narrowing.

Tax Policy - Corporations have to pay taxes. Obviously, the higher the tax rate the lower their net income in the current period and, other factors equal, the less they can reinvest or return to stockholders in the form of dividends. A higher tax increases the pretax-required rate of return on projects. For this reason, taxes raise the cost of capital, other factors equal.

Taxes complicate other factors as well. For example, returns to equity and debt typically have different tax consequences. In arriving at their taxable income firms may deduct fully interest expenses but not income accruing to stockholders. This means that a company has to generate a higher pretax return on projects financed with equity than on those backed by debt in order to generate a return to investors that is comparable, other factors equal. Put differently, the higher the percentage of equity to debt as a means of financing for the firm, the higher the cost of capital.

The complications do not end there. In addition to interest expenses, companies are allowed to take certain other deductions in computing their taxable income. For firms contemplating investment perhaps the most relevant are depreciation charges. As equipment is assumed to wear out, firms can treat a portion of the original purchase cost as an expense. The more generous the tax code in permitting such action, the smaller the tax burden. In addition, lower prevailing interest rates work to reduce the tax burden by leading to smaller discounts on future depreciation provisions. (Future depreciation allowances are worth less than current ones because the firm does not have use of the tax savings until the depreciation is allowed and thereby loses the potential return on that money in the interim. Lower interest rates reduce the extent of that loss.)

Several Japanese experts argue that corporate tax rates are higher in Japan than in the United States. Hiromitsu Ishi of Hitotsubashi University finds that the average effective rate of corporate taxation in Japan generally has been higher than in this country since the mid-1970s, with the gap widening at least through 1984.[1] (Professor Ishi's study covers the 1970-84 period. As such, it does not reflect the important Tax Reform Act of 1986 in the United States.) However, John B. Shoven of Stanford University has argued in a number of papers that the effective marginal tax rate was still higher in the United States in 1989, although he acknowledges that effective Japanese rates adjusted for inflation rose during the 1980s much faster than comparable U.S. rates.[2]

[1]Hiromitsu Ishi, The Japanese Tax System (Oxford, England: Oxford University Press, 1989), pp. 157-201. Professor Ishi also reviews earlier studies of the same question.

[2]John B. Shoven, "The Japanese Tax Reform and the Effective Rate of Tax on Japanese Corporate Investments," Tax Policy and The Economy (National Bureau of Economic Research Working Paper No. 2791), 1989.

Risk - Not all projects are equally risky. If a lender senses a chance of default or a significant possibility of a much lower-than-expected return, it will demand a higher return to compensate for this prospect. Therefore, companies believed to be threatened by bankruptcy often have very low P/E ratios (and high rates of return). In general, bondholders, who would stand near the head of the line in the case of faltering profitability, demand less in compensation for their risk than do common stockholders, who would be practically last in line.

If borrowers and lenders know each other well, as is likely within corporate groups, the lender may perceive less risk, particularly if it has special access to relevant information about the borrowing company. Most experts think that such group-type relations are more common among Japanese financial and nonfinancial firms, with the financial keiretsu structure being a case in point. However, these analysts disagree over whether this factor has led to lower borrowing costs for members of financial-based business groupings. (For details on keiretsu, see JEI Report No. 2A, January 12, 1990.)

Finally, a record of past success may lift general expectations about future prospects; if default rates in the past in an industry or a country have been low, investors may expect similar results in the future and be willing to live with a low risk premium. With Japan's 40-year record of exceptional economic growth, lenders may feel comfortable about the unlikelihood of a macroeconomic disaster that would materially affect default rates or even expected returns. In the United States, which has suffered severe recessions during this period, such confidence levels logically would be far lower.

Studies of the Cost of Capital

As should be clear by now, measuring the cost of capital in Japan compared to the United States is a tough job. In fact, it is even harder than the previous section suggests because the various dimensions of cost interact in complex ways. For example, higher tax rates increase the capital cost of risky investments more than that of less risky projects. Hence, a system where taxes are high is likely to discourage investments with substantial exposure more than those with lower risk.

Studies of the cost of capital have come to disparate conclusions.[3] Albert Ando and Alan Auerbach, both of the University of Pennsylvania, examined the cost of capital of 40 large U.S. and Japanese firms for the 1966-81 period. After making many of the adjustments described above to the nominal cost of capital, they found little evidence that the cost of capital was lower in Japan during this time frame. Among other findings, they rejected the hypothesis that business taxation favors Japanese firms, a finding that would

[3]For references to many such studies and a discussion of results in the context of competitiveness implications for U.S. and Japanese firms, see U.S. Congress, Office of Technology Assessment, Making Things Better: Competing in Manufacturing (OTA-ITE-443) (Washington, D.C.: Government Printing Office, 1990), pp. 93-112.

presumably still hold in more recent periods as Japanese tax burdens apparently have risen relative to American ones.[4]

Robert N. McCauley and Steven A. Zimmer, in an article for the Federal Reserve Bank of New York, examined the cost of capital for the United States, Japan, West Germany and the United Kingdom for the 1977-88 period. After adjusting for taxes, inflation, differing equity/debt ratios and other factors, they found that Japan, in general, did have significantly lower capital costs than the United States and the United Kingdom, with a less clear-cut advantage over West Germany. As Table 2 shows, according to Messrs. McCauley and Zimmer, Japan had uniformly lower costs than the United States in every year for a wide variety of investments. This was a result primarily of low-cost equity; for half the years after 1980 the real, after-tax cost of debt was higher in Japan than in the United States, according to their analysis. In 1988, the most recent year considered, the real cost of debt financing in Japan was the highest among the four countries studied despite it having the lowest nominal interest rates.[5] Messrs. McCauley and Zimmer, along with other analysts, did not make adjustments for risk. They did not ask the question, for example, as to whether very risky projects had a lower cost of capital in Japan than in the United States.

Table 2: Cost of Capital for Various Projects in United States and Japan, 1980-88

(percentage point difference between U.S. and Japanese capital costs)

	1980	1981	1982	1983	1984	1985	1986	1987	1988
Equipment and Machinery with Physical Life of 20 Years	2.7	4.7	3.0	1.8	2.9	2.8	1.3	3.2	4.0
Factory with Physical Life of 40 Years	3.1	3.3	5.8	3.8	6.5	6.5	3.5	4.2	5.2
Research and Development Project with 10-Year Payoff Lag	5.1	0.3	10.1	6.5	12.6	11.0	7.4	9.8	11.6

Source: Robert N. McCauley and Steven A. Zimmer, "Explaining International Differences in the Cost of Capital," Federal Reserve Bank of New York Quarterly Review, Summer 1989, p. 16.

[4]Albert Ando and Alan Auerbach, "The Corporate Cost of Capital in Japan and the United States: A Comparison" in John B. Shoven, (ed.), Government Policy Towards Industry in the United States and Japan (Cambridge, England: Cambridge University Press, 1988), pp. 21-49.

[5]Robert N. McCauley and Steven A. Zimmer, "Explaining International Differences in the Cost of Capital," Federal Reserve Bank of New York Quarterly Review, Summer 1989, pp. 7-28. The relative cost of debt among the four countries since 1977 is shown on p. 10.

B. Douglas Bernheim of Northwestern University and John B. Shoven of Stanford University in a recent paper took the risk factor more directly into account.[6] They found that corporate taxes increase capital costs more for risky projects than for relatively safe ones in the United States, while Japan's tax system is more neutral with respect to risk. Japan's corporate tax structure, in the view of Messrs. Bernheim and Shoven, discourages investment less than does the U.S. tax code. They concluded that Japanese firms generally have lower capital costs, as shown in Table 3; that conclusion particularly applies for risky projects.

Table 3: Cost of Capital in the United States and Japan, 1980 and 1988

(for plants; earnings/price basis and standardized risk)

	United States		Japan	
	1980	1988	1980	1988
Equity Financed	20.7%	12.6%	14.5%	5.1%
Debt Financed	16.7	9.7	7.4	3.0

Source: B. Douglas Bernheim and John B. Shoven, Comparison of the Cost of Capital in the United States and Japan: The Roles of Risk and Taxes (Stanford, California: Center for Economic Policy Research, 1989), Table 6.

For Messrs. Bernheim and Shoven, as with other researchers, the cost of equity financing in Japan proved particularly vexing. P/E ratios in Japan are remarkably high, even after various adjustments. This suggests, as was explained earlier, that earnings are low in relation to market value. Hence, firms would appear to have a low "hurdle" value for proposed projects financed with equity; with other factors being equal, that means a low cost of capital.

But is the matter that simple? The Japanese stock market went up significantly year in and year out during the 1980s before faltering early this year. Investors in Japanese companies did very well; their annual returns were far greater than those suggested by P/E ratios. To the extent that investors came to expect increasing stock values, a given company did what it could to increase its stock value to be competitive with other companies the investor might choose. Generally this meant choosing highly profitable projects that would raise the price of a company's stock. Hence, it could be argued that the relevant cost of equity capital is given more accurately by the realized percentage increase in the stock market price than by the earnings/price ratio. Messrs. Bernheim and Shoven, while preferring the earnings/price ratio as a criterion, nevertheless present the figures both ways. If stock market price

[6] B. Douglas Bernheim and John B. Shoven, Comparison of the Cost of Capital in the United States and Japan: The Roles of Risk and Taxes (Publication No. 179) (Stanford, California: Center for Economic Policy Research, 1989).

increases are the standard, then the cost of equity capital would be higher in Japan than in the United States for equally risky projects in both 1980 and 1988, the two years they considered.

In summary, Messrs. Bernheim and Shoven found lower capital costs in Japan than in the United States, with the advantage particularly noteworthy for risky projects. As such, their results are consistent with those of Messrs. McCauley and Zimmer, who used a different methodology, but they contrast with the findings of Messrs. Ando and Auerbach, which stem from a third methodology. None of these economists is likely to have the last word. As the world and the Japanese economies change, new factors, some of which receive recognition in the studies discussed above, are threatening to complicate the already complex task of accurately gauging capital costs.

Other Considerations

International Borrowing and Lending - Borrowers and lenders, even if their interaction produces lower capital costs in Japan, may not be able to reproduce their magic overseas. For example, if Japanese manufacturing firms gain an advantage as exporters because of lower capital costs at home, this advantage could disappear for products made by the same Japanese companies in this country. Such companies are subject to U.S. tax rates and depreciation provisions for their onshore production. Even if a manufacturer's debt and equity costs are the same in yen and dollar terms for its American and Japanese factories, the after-tax costs of capital may not be, depending on U.S. and Japanese tax provisions.

In some cases U.S. taxes could be more beneficial to Japanese companies than Japanese provisions. In those instances, however, Japanese firms are limited in their ability to benefit. American subsidiaries of Japanese firms, like their U.S. counterparts in Japan, have to deal with a tax code provision that gives them the worst of both worlds. Washington as well as Tokyo attempts to collect from overseas subsidiaries of domestic firms the difference between their hypothetical tax liability if they were to pay domestic taxes on their overseas business income and what they actually pay the foreign tax authority. (This provision is not a universal practice; French firms, for example, do not face this problem.[7]) As a result, a Japanese manufacturer conceivably could end up sending a check for its U.S. operations to the Internal Revenue Service comparable to the payment an American competitor sends but also have a financial obligation to Japan's National Tax Administration Agency. Unless offset by other advantages, the Japanese subsidiary would face a higher cost of capital than the U.S. firm.

A related argument applies to lenders that expand into overseas markets. Japanese banks that lend to American or Japanese firms subject to U.S. tax laws will not necessarily be able to lend to the companies on terms that

[7]For a discussion of this tax provision and other taxation issues involving multinational firms, see Joel Slemrod and Kenneth A. Timbers, "Japanese and U.S. Tax Treatment of their Resident Multinationals: Who Has the Competitive Advantage?" Paper prepared for the Princeton University-Japanese Ministry of Finance Conference on Comparative Tax Policy, Princeton University, April 2-3, 1990.

will give them the cost of capital enjoyed by firms in Japan. As indicated above, a significant portion of any capital cost advantage enjoyed by Japanese producers is a result of different tax policies in Japan; these advantages are not available to U.S. firms operating in the American market, even if they borrow from a Japanese bank. Therefore, one cannot assume, on the basis of lower capital costs in Japan, that Japanese banks are able to offer better terms on their lending in the United States than American banks.

Covered Versus Uncovered Interest Rate Parity - As noted above, nominal interest rates unquestionably are lower in Japan than in the United States and most other countries. Since this is true, why do investors with the ability to invest in the United States put any of their money into Japan? While some U.S. investments are risky, others, such as Treasury instruments, are very safe. To some experts the fact that nominal interest rates are unequal suggests market imperfections. According to this argument, even though taxes may drive a wedge between borrowing and lending costs -- so that Japanese capital costs could be lower than American ones -- at least a lender's rates of return should be equal across national boundaries if capital markets really are free. Therefore, given that nominal rates differ, capital movements are not free. If Japan's markets were liberalized, this argument concludes, U.S. firms would benefit from lower borrowing costs.

Of course, this argument makes an implicit assumption that the exchange rate does not vary. A Japanese investor would prefer a foreign investment with a relatively high interest rate to a local investment only if he can be sure that the movement between the yen and a foreign currency will not wipe out all of the advantage of the higher return available abroad. This condition, known as covered interest rate parity, suggests that overseas investment makes sense only if the interest rate advantage over a period of time is at least as great as the percentage difference between the current exchange rate and the forward exchange rate. In other words, the investor should be able to buy yen forward at a sufficiently low price to no more than offset the interest rate differential.

Until 1980 or so covered interest rate parity did not hold. Between 1976 and 1980, for example, covered market interest rates on short-term instruments in Japan generally exceeded those in the United States. American investors might have made a killing in Japan by investing in that country and buying forward exchange contracts to cover the possibility of the yen's depreciation. Since 1980 international capital markets have become much more closely linked. As several researchers have found, rejecting the hypothesis of covered interest parity has become increasingly difficult; in other words, exchange rate-adjusted interest rate differentials have narrowed dramatically.[8]

Marginal Versus Average Rates - Calculations of the cost of capital necessarily are based on past transactions but are used for making decisions about

[8]Robert Alan Feldman, Japanese Financial Markets (Cambridge, Massachusetts: The MIT Press, 1986), pp. 182-83; Yoshio Suzuki, The Japanese Financial System (Oxford, England: Clarendon Press, 1987), p. 342; and K. Osugi, "Japan's Experience of Financial Deregulation Since 1984 In An International Perspective," BIS Economic Papers No. 26 (Basle, Switzerland: Bank for International Settlements, 1990), p. 59.

future projects. However, future transactions may not occur on the same terms. For example, a firm expanding rapidly may find that borrowing becomes more expensive the more it borrows, perhaps because the lender feels the borrower is overextending. In addition, a bank that relies on low-cost deposits for most of the funds that it lends also may find that some deposits are attracted only by means of much higher interest rates. In choosing a rate at which to lend for a new project, a rational bank would consider its cost to be the price of obtaining those incremental funds rather than the average cost of all its deposits. Hence, a low average cost of obtaining funds does not necessarily suggest much about the banking industry's willingness to lend at a comparably low rate.

This argument has obvious relevance for comparisons of the cost of capital in the United States and Japan. The conventional explanation concerning the flow of savings into investment in Japan goes as follows: Tokyo sets unusually low interest rates on savings accounts. Japanese individuals nevertheless respond with high savings year after year. Corporations borrow from banks at comparably low rates, giving them an edge in international competition.

Whatever its relevance at one time for explaining Japanese interest rates and the cost of capital, this argument increasingly rings hollow in Japan. According to the Bank of Japan, 44.7 percent of commercial bank deposits earned deregulated interest rates as of March 31, 1989, up from a negligible percentage a few years earlier. As a result, while many individuals still are receiving below-market interest rates, banks necessarily have to use market-based interest rates in their lending decisions.

To see this conclusion, consider a bank's options. It has to pay a market rate of interest for the additional funds it will need. Were it able to pay a low, regulated rate on new deposits, it would have done so on all existing deposits and there would be no outstanding balance of deposits having unregulated rates.

In Japan most published rates of interest on savings are an average of market and nonmarket interest rates, even though only the former are relevant to the banking industry's decisions about new lending. In the United States, where interest rates are virtually all deregulated, average rates of interest approximate rates relevant to the decisionmaking process much more closely. Hence, a comparison of average rates showing lower charges for funds in Japan is misleading as a guide to the relative interest burdens facing firms in international competition. To solve this problem comparisons should focus on market-based interest rates in both countries.

This argument also applies to the international activities of Japanese banks. Financial firms, like nonfinancial concerns, almost always regard their international business as marginal to their domestic business. In other words, it is the last to be expanded (in the case of Japanese banks in the postwar period) and the first to be contracted (U.S. money center banks in the 1980s). For this reason Japanese banks surely will base the cost of funding their overseas lending out of Japanese deposits on the deregulated interest rates they have to pay their local depositors -- payments they could avoid if they were to eschew foreign lending. This, in turn, suggests that Japanese banks do not have nearly the advantage in lending in the United States that one would infer based on average interest rates paid in Japan. (To the considerable extent that Japanese banks fund their overseas lending with deposits collected abroad, the low interest rate advantage of Japanese banks further diminishes.)

Conclusion

Most studies conclude that Japanese firms have enjoyed a lower cost of capital than American companies, although the results are sensitive to exactly how costs are measured. They also are much less striking than one would estimate by looking at nominal interest rate differences alone. However, to the extent that capital costs in Japan are lower, many other alleged differences between American and Japanese management disappear. For example, Japanese firms often are accused of buying market share at the expense of profits. A more sophisticated variant of this argument suggests that Japanese competitors invest in market share as a means of obtaining higher profits down the road. Clearly, lower capital costs tend to increase the likelihood that a profit-maximizing firm would take this route. (However, some of the dimensions of capital cost, such as depreciation provisions, would not be relevant to an "investment" in market share, suggesting that a finding of lower capital costs is insufficient to determine that a firm is investing in market share.) Conversely, a short-term profit orientation, of which U.S. firms often are accused, could be a result of discounting long-term results more heavily due to higher costs of money. In other words, the studies summarized here suggest the possibility that capital costs, not management philosophies, may be the cause of what appears to be myopia on the part of U.S. firms.

The Bernheim-Shoven results, if they hold up under continued scrutiny, have another important implication for the competition between American and Japanese firms. By most of their measures, capital costs are quite close between American and Japanese firms for relatively riskless projects but far higher for U.S. firms in the case of risky investments. This suggests that Japanese firms have a comparative advantage in risky ventures and U.S. companies in relatively safe ones. If, as some experts believe, Japanese firms are able to reduce risk through group structures such as keiretsu, the comparative advantage of the two sides in the same projects would be even greater. Stretching this admittedly tenuous argument to the limit explains why Japanese firms have been willing to tackle markets that at one time seemed remarkably risky, such as the U.S. car market, but it also implies Japanese firms are unlikely to put funds into markets where they expect relatively risk-free, but low, returns. Such markets would be left to American firms that have a comparative advantage in low-risk projects.

Both the McCauley-Zimmer and the Bernheim-Shoven studies underline the sensitivity of the cost of capital to what investors in common stock would require to judge competitiveness with other investments they might make. By most measures the healthier the stock market, the lower the cost of capital. By this standard the cost of capital in Japan may have shot up dramatically in recent months as the Tokyo Stock Exchange has plummeted. Some analysts, most of them foreign, have suggested that the stock market in Japan could be in for a prolonged period of sluggish behavior lasting months or even years, regardless of what happens to the Japanese economy. If that is so, the cost of capital in Japan will not be nearly as attractive to Japanese companies as it has been during the prolonged bull market, which some analysts reckon lasted 25 years. This will be all the more true if interest rates on borrowed money and other debt remain close to the high levels they have reached in recent months.

As noted earlier, covered interest rate differentials between the United States and Japan largely disappeared during the 1980s. This implies an equalization of before-tax opportunities for investors. The beginning of the 1990s

suggests the possibility that the United States and Japan may face an analogous convergence of capital costs, with possible implications for long-term management perspectives. Even if this convergence does not occur, Japanese firms increasingly will be at the mercy of foreign tax systems as they expand their operations overseas. For several reasons, then, the cost of capital may well have been an important past factor in explaining behavorial differences between Japanese and American firms, but it is likely to be far less important in the future.

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The views expressed in this report are those of the author and do not necessarily represent those of the Japan Economic Institute.